

AN OLD WEATHER DIARY IN NORTHEASTERN INDIANA

By B. B. WHITTIER

[Weather Bureau, Fort Wayne, Ind., July 1935]

Through the thoughtfulness and courtesy of Mr. and Mrs. J. G. Carman, who now possess the original, the Weather Bureau recently had the privilege of copying a weather diary that covers the period 1837 to 1874. This diary, begun by Rapin Andrews while living in New York State, was carried on by him after he moved to Indiana in July 1839. Following his death, it was continued, with but few breaks, by his family until April 1874.

The place of record is a farm 1 mile north and $\frac{1}{2}$ mile west of Hometown, Ind., about 12 miles north of Fort Wayne; hence this record is fairly comparable with the Weather Bureau records in later years at Fort Wayne. Temperature readings were taken three times daily, and notes on the weather for each day, including the prevailing wind direction, were well kept.

The highest temperature noted in the diary was 102° at noon, July 9, 1846. This compares favorably with the later official record at Fort Wayne of 106° on July 22, 1934. Numerous cold spells are noted in the diary. The lowest temperature recorded was -34° at 7 a. m., January 29, 1873. The lowest on the Fort Wayne official record (since 1911) is -24° on January 12, 1918. The famous (or infamous!) "cold New Year's Day" of 1864 is found to deserve its reputation, for its noon temperature was -16° . It is interesting to note that the monthly extremes of high temperatures largely center around the 1840's, while the extremes of cold are often in the 1860's or early seventies.

Copies of this early record are now on file in the Weather Bureau offices at Washington, D. C., and Indianapolis, and Fort Wayne, Ind.

BIBLIOGRAPHY

C. FITZHUGH TALMAN, *in Charge of Library*

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies.

Argentine republic. Dirección de meteorología, geofísica e hidrología.

El régimen pluviométrico de la República Argentina. Buenos Aires. 1934. 28 p. maps (part fold.), tabs. 32 cm. Año 1934.

Austria. Flugwetterdienst

Aerologische Beobachtungen. Wien. 1931-1933. tables. 30 cm. 1-24 H. 1931-1933.

British East Africa. Meteorological service

Results of meteorological observations made at the Kabete first order station, Kenya . . . during the months of January-December 1931 . . . n. p. 1931. 37 $\frac{1}{2}$ cm.

— Summary of rainfall in Kenya colony for the months of January-December 1930. n. p. 1931. 36 $\frac{1}{2}$ cm.

— Summary of rainfall in Uganda protectorate. 1932. 36 $\frac{1}{2}$ cm.

Chapman, B. Burgoyne

The climatic regions of China. A preliminary report of the China land utilization study, prepared by the Department of agricultural economics, College of agriculture and forestry, the University of Nanking. Nanking. 1933. 77 p. maps, tables. 23 $\frac{1}{2}$ cm. (Bulletin no. 3, new series.)

[Colombia]. Ministerio de agricultura y comercio

Boletín de agricultura. Suplemento de meteorología. Bogotá. 1934. 168 p. tables. 24 cm.

De Fina, Armando L.

La predicción del rendimiento del trigo en base a caracteres biometricos. Buenos Aires. 1935. p. 293-302. tab., diagr. 22 $\frac{1}{2}$ cm. (Reprint: Rev. Argent. de agron., Tomo 1, N° 4, p. 293-302.)

Ekhart, E.

Klima von Innsbruck. Mit teilweiser Benutzung des Materials einer Dissertation von Frl. Dr. F. Wilcke. n. p. n. d. p. 247-359. tab., diagr. 26 cm. (Sonderabdr. Bericht. d. Naturwissensch.-Mediz. Vereines in Innsbruck, XLIII-XLIV. Jahrg. 1931/31 bis 1933/34.)

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Bulletin. Gorée. 1932-1933. Tome 1. Juillet 1931-Décembre 1931.

Gardner, Arthur

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Gherzi, Ernest

Atlas de l'humidité relative en Chine. Shanghai. 1934. v. p. tab., maps (plates). 34 cm. (Observatoire de Zikawei.)

Hajósy, F [erenc.]

Die Verteilung des Niederschlages in Ungarn. (1901-1930.) Budapest. 1935. 34 p. maps (in folder), tab., diagr. 31 cm. (Off. Publik. Reichsanst. f. Meteorologie und Erdmagnetismus. 1935. Band XI.) [Title and text in Hungarian and German.]

Harrison, Lucia Carolyn

Daylight, twilight, darkness, and time; their distribution over the earth and their relationships to human affairs. New York, Newark, etc. c1935. viii, 216 p. incl. front., illus., diagrs. 20 cm.

Japan. Central meteorological observatory

Short report of the results of observations of solar radiation made in Japan. 1932-33. Tokyo. 39 $\frac{1}{2}$ cm. nos. 1-16. 1932-33.

Matthews, Ernest Romney

Coast erosion and protection. 3d ed., rev. . . . Brysson Cunningham. London. 1934. xviii, 228 p. front., illus., 35 plates (part fold.), diagrs. 23 cm.

Nanking. National reserach institute of meteorology. Academia sinica.

International atlas of clouds. Pei Chi Ko, Nanking. April 1932. 13 p. plus 41 plates. 31 cm. [Text in Chinese, t. p. also in English.]

Poisson, Charles

Les cyclones tropicaux. Paris. 1931. 59 p. illus., pl. 32 cm. (Extrait des Annales de l'Académie des sciences coloniales, Tome V.)

— Études sur les tempêtes de la saison 1933-34 à Madagascar. Tananarive. 1934. 47 p. maps (part fold.) diagr. 28 cm. (Publ. du Serv. météor. de Madagascar. No. 3. (Août 1934.)

Puppo, Agostino

L'attinografo di Robitzsch. Considerazioni critiche. Pavia. 1935—XIII. 15 p. tabs., diagrs. 24½ cm. (Extr.: Boll. del Comitato per la Geodesia e la Geofisica del Consiglio Nazionale delle Ricerche. Serie II, Anno V, N. 2—Aprile 1935—XIII.)

Romer, E.

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Scott polar research institute

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Preliminary report on the weather at Mantalongon. Manila. 1934. 34 p. 4 pl., tab., diagr. 30 cm.

Union of South Africa. Meteorological office

Monthly frequency tables, containing summaries of observations of horizontal visibility, height of base of low cloud and speed and direction of surface and upper winds. . . No. 8-12. 1932-1933. tables. 33½ cm.

Western interstate snow survey conference

Proceedings . . . at the Nevada agricultural experiment station. Feb. 18, 1933. June 28, 1933. Carson City, Nev. 1934. 89 p. ill., diagr. 23 cm.

SOLAR OBSERVATIONS

SOLAR RADIATION MEASUREMENTS DURING JULY 1935

By IRVING F. HAND, Assistant in Solar Radiation Investigations

For a description of instruments employed and their exposures, the reader is referred to the January 1935 REVIEW, page 24.

Table 1 shows that solar radiation intensities averaged close to the July normals at Washington and Lincoln, and slightly above normal at Madison.

With the reopening of the pyrheliometric stations at Pittsburgh and La Jolla, the list of stations in table 2 is the largest in the history of the bureau. Owing to the relocation of the pyrheliometer at Pittsburgh from an urban to a suburban site, it has been deemed best to wait until new normals have been established before giving weekly departures of solar and sky radiation. New normals will also be necessary at La Jolla, for the reason that some doubt is held concerning the accuracy of the records obtained during the last few months with the old instrument which had absorbed some water-vapor. The Scripps Institution now has an hermetically-sealed thermoelectric pyrheliometer, and excellent records are to be expected from now on. Practically all stations in the central portion of the United States showed an excess in the total solar and sky radiation during the month. However, Washington, Chicago, Miami, New Orleans, and Riverside—all located near the seacoast or on the Great Lakes—showed a deficiency.

The red and the yellow glass filters used in turbidity measurements were tested during July by the National Bureau of Standards and found to have identically the same transmission coefficients that they had at the initial test.

Polarization measurements obtained on 4 days at Washington give a mean of 56 percent with a maximum of 61 percent on the 11th. At Madison observations taken on 8 days give a mean of 58 percent with a maximum of 66 percent on the 6th. All of these values are close to the July normals.

TABLE 1.—Solar radiation intensities during July 1935

[Gram-calories per minute per square centimeter of normal surface]

WASHINGTON, D. C.

Date	Sun's zenith distance										Noon Local mean solar time	
	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°		
	75th mer. time	Air mass										
		A. M.					P. M.					
		<i>e</i>	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0		5.0
<i>e</i>	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	<i>e</i>		
July 3	mm	cal.	cal.	cal.	cal.	cal.	cal.	cal.	cal.	mm		
July 11	11.81					1.16				9.14		
July 12	19.23	0.61	0.68	0.86	1.02					16.79		
July 15	20.57	.44	.57	.71	.88	1.04				17.96		
July 18	18.59			.60						16.79		
July 20	18.59	.63	.78							18.59		
July 29	16.79			.51	1.18					16.20		
July 30	10.97		.90	1.06	1.20	1.32				14.10		
Means		.56	.73	.75	1.07	1.17				11.74		
Departures		-.02	+.05	-.03	+.15	-.04						

TABLE 1.—Solar radiation intensities during July 1935—Continued

[Gram-calories per minute per square centimeter of normal surface]

MADISON, WIS.

Date	Sun's zenith distance											Local mean solar time
	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	noon	
	75th mer. time	Air mass										
		A. M.					P. M.					
		<i>e</i>	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	
July 5	<i>mm</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>cal.</i>	<i>mm</i>	
July 6	19.23			0.91							17.37	
July 8	16.79		0.95	1.08	1.24	1.42					17.96	
July 10	12.24	0.87	.96	1.07	1.23	1.40					14.60	
July 12	16.20		.74								16.79	
July 13	15.65				1.28	1.47					12.68	
July 16	13.61			1.10	1.24	1.43					12.24	
July 17	12.24					1.31					13.61	
July 19	11.33			.99	1.17	1.36					14.10	
July 25	16.79		.62	.77	.99	1.27					15.65	
July 26	17.37				1.14	1.38					17.37	
July 29	15.65				1.05						18.62	
July 29	14.60		.87	.93		1.39					15.11	
Means		(.87)	.83	.93	1.17	1.38						
Departures		+.17	+.03	+.05	+.10	+.07						

LINCOLN, NEBR.

LINCOLN, NEBR.											
July 1	18.59							0.65	0.43	0.34	21.28
July 2	19.89		0.53	0.71	0.94	1.24		.70	.57	.46	18.59
July 3	17.37		.83	.98	1.14	1.37					17.96
July 5	21.28					1.26	1.04	.88	.74	.61	20.57
July 8	18.74					1.30	1.04	.84	.67		17.37
July 10	21.28				1.10	1.29	.98	.75	.60	.50	16.20
July 12	16.79					1.33	1.13	.97	.83	.72	13.61
July 13	12.24	0.77	.88	.99	1.17	1.29					12.68
July 15	14.10		.91	1.02	1.21	1.42	1.18	1.00	.84	.72	10.97
July 16	14.10	.82	.93	1.06	1.23	1.39	1.15	.99	.87	.73	17.14
July 17	15.65		.79	.96	1.14	1.38			.77	.66	12.24
July 18	14.60		.79	.93	1.11	1.38					12.68
July 19	14.60	.45	.55	.70	.92	1.30					14.60
July 20	20.57	.50	.66	.84	1.06	1.35					15.11
Means		.64	.76	.91	1.10	1.33	1.09	.85	.70	.59	
Departures		-.03	-.02	-.01	+.02	+.02	+.07	+.02	.00	+.01	

BLUE HILL, MASS.

2001 TIME TABLE											
Date	8 a. m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	
	Air mass										
	A. M.					P. M.					
	e	5.0	4.0	3.0	2.0	*1.0	2.0	3.0	4.0	5.0	e
July 1	8.8					1.07	1.43				9.9
July 2	8.8					1.28	1.45				6.3
July 3	9.2					1.43	1.11	1.03			7.6
July 4	12.8					1.14	1.17				11.5
July 5	16.9					1.11	1.19				16.4
July 8	18.7					1.07	1.28				17.5
July 10	17.5					1.06	1.14	.99			14.7
July 11	17.5					.73	1.13				16.4
July 12	18.8					.80	1.04				16.4
July 17	16.9					1.10					15.8
July 18	18.2					1.28	.84				16.4
July 20	17.5					1.02	.84				14.7
July 23	20.1					1.11					18.8
July 26	9.9					1.41	1.15				8.8
July 27	11.9					1.35	1.11				9.2
July 28	10.3					1.42	1.21	1.07			9.6
July 30	11.5					1.23	1.33				9.6
Averages						1.03	1.08	1.25	1.04	1.05	

*Extrapolated.